

ABSTRACT

A phase-change memory device including a memory cell having a memory element and a select transistor is improved in heat resistance so that it may be operable at 145°C or higher.

The memory layer is used which has a content of Zn or Cd of 20 at% or more and 50 at% or less, a content of Ge or Sb of 5 at% or more and 25 at% or less, and a content of Te of 40 at% or more and 65 at% or less in Zn-Ge-Te.